

NOXIOUS TIMES

a quarterly publication of the California Interagency Noxious Weed Coordinating Committee

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Eleven New Species Added to the State Weed List

The California Department of Food and Agriculture has amended Section 4500 of the California Code of Regulations by adding eleven weed species to the state's list of noxious weeds. The movement and commerce for these weeds will be regulated by CDFA. The following species were determined to present a serious threat to California's agricultural lands and wild areas: *Ailanthus altissima* (tree of heaven), *Arundo donax* (giant reed), *Centaurea melitensis* (tocalote), *Cirsium vulgare* (bull thistle), *Cortaderia jubata* (jubata grass), *Senecio mikanioides* (cape ivy), *Spartium junceum* (spanish broom), *Tamarix chinensis* (salt cedar), *Tamarix gallica* (salt cedar), *Tamarix parviflora* (salt cedar), and *Tamarix ramosissima* (salt cedar). These species, as with all of the 135 species listed in Section 4500 threaten natural areas and agricultural lands to some extent. Many ecosystems are dominated by these species to the point that their very function and composition are drastically altered. The California Department of Food and Agriculture, with direction from the Secretary of the department, is responsible for preventing the spread of these injurious pests by enforcing regulations as necessary.

Continued on page 8...

Recent Ruling Requiring NPDES Permits for Aquatic Pesticides Causes Jurisdictional Issues with EPA

The ruling by the Ninth Circuit Court of Appeals that changed regulations for the use of aquatic pesticides, caused some jurisdictional issues with the U.S. EPA. In its March 12, 2001 ruling, the federal appeals court determined that aquatic pesticides are now subject to regulation under the Clean Water Act (CWA). Under this act, pesticides applied to water will now require an NPDES permit—just like industrial wastes. Before this ruling, the use of aquatic pesticides on waters of the United States was held only to the standards of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) by the EPA.

Complicating matters, the U.S. EPA maintains the position that when a pesticide is applied consistent with FIFRA label instructions, it is not in violation of the CWA, because it is an EPA-evaluated product. Pesticides evaluated and approved by the EPA are not qualified as pollutants under the CWA and does not need an NPDES permit. The EPA has yet to determine a final position on the matter

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CHAIRPERSON'S MESSAGE:

Steve Schoenig, CDFA

As I write this on October 27th, summer is still refusing to leave and the South State is burning on many fronts. Soon though, we will have completed another year of weed control and can step back and see what progress we have made.

Over the past decade noxious weed control has seen many new people join in the fight at both the local and statewide levels. In spite of budget cuts and program limits, I feel that most agencies are recognizing the need to address invasive species. Hopefully, the State Weed Plan will provide a roadmap to guide and inspire the development of more funding and programs to fight noxious weeds. Working together, CINWCC and the California Invasive Weed Awareness Coalition (CaliWAC) can turn many of the "needs" identified in the plan into realities.

CINWCC business – This is the last issue of the Noxious Times that will bear my message, as I will be turning over the exulted chair of the California Interagency Noxious Weed Coordinating Committee to a new weed zealot. We have a nominated successor who can definitely make a mark by bringing enthusiasm and competency to the role. She will be introduced in the next issue after formal election to the post.

I would like to thank all who have participated in CINWCC meetings over the past two years. I hope CINWCC can continue to provide a forum for coordination between the state, federal and county agencies managing land in California.

Noxious Times is a publication of the California Interagency Noxious Weed Coordinating Committee. The committee was formed in 1995 when 14 federal, state, and county agencies came together under a Memorandum of Understanding to coordinate the management of noxious weeds. The committee's mission is to facilitate, promote, and coordinate the establishment of an Integrated Pest Management partnership between public and private land managers toward the eradication and control of noxious weeds on federal and state lands and on private lands adjacent to public lands.

The *Noxious Times* newsletter intends to help the committee achieve its goals of coordination and exchange of information by providing land managers throughout the state with information on weed control efforts, news, and successes.

Noxious Times is published quarterly by staff of the Integrated Pest Control Branch at the California Department of Food and Agriculture. We welcome submissions for our upcoming issues. Please send to: CA Department of Food and Agriculture, ATTN: Noxious Times, 1220 N Street, Room A-357, Sacramento, CA 95814 or e-mail: noxtimes@cdfa.ca.gov

If you have a colleague whose name you would like to add to our mailing list, please send mailing information to the address above.

Noxious Times Editorial Staff: Steve Schoenig, Katherine Blackman. Text written by staff unless otherwise noted.

Spotted Knapweed Releases the Chemical Catechin to Displace Competition

By: Reina Kahn, Agricultural Aide,
California Department of Food and Agriculture

Spotted knapweed (*Centaurea maculosa*) is a perennial, invasive plant native to central Europe and Eurasia. It was introduced to North America in the late 1800's in dumped ship ballast and as a contaminant in crop seeds. Due to its rapid increase over the past century, the present range of spotted knapweed includes 326 counties in the western United States. Spotted knapweed is found to be so detrimental that it not only displaces all native plants, but reduces the forage ability of livestock and wildlife. Researchers have estimated that knapweed infestations have decreased crop yields of bluebunch wheatgrass by 88% and elk use by 98% on spotted knapweed dominated range as compared to bunchgrass dominated sites (Malone, 2003).

Previous ecological theory speculated that the success of this invasive weed was based on its ability to use resources in non-native ecosystems faster and better than native plants. A recent study reported in *Science* magazine modifies this theory adding that chemistry can play a role a weed invasion as well. Jorge Vivanco, professor in the Horticulture and Landscape Department at Colorado State University, isolated and identified the chemical catechin found in spotted knapweed that, upon release, triggers an internal reaction in competing plants that causes them to die. This process known as allelopathy has been an alternative theory for the success of some invasive plants for years, but scientists could not find it in the soil because it was almost impossible to separate from the other naturally occurring compounds in the ground (Moellenberg, 2002).

Researchers found that two forms of the chemical catechin were released by spotted knapweed. The two forms of the chemical were identical in all respects except that their molecular structures were mirror images of each other (Yoon, 2003). The positive form of catechin, an antioxidant also found in green tea, was found to be phytotoxic whereas the negative

form of catechin was found to have anti-microbial properties (Bais et al., 2003). Both forms of the chemical are released by spotted knapweed, triggering an internal response in surrounding plants to create oxidants and activate genes that cause the plant's cells to die. Researchers found that within 10 minutes, catechin stopped the stream of cytoplasm within the root cells of neighboring plants, and created a more acidic pH level (Newswise, 2003). Catechin kills the root of neighboring plants within 60 minutes, and within a week the plant is dead. Spotted knapweed has a defensive mechanism that prevents catechin from reentering its roots once it has

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Please excuse our mistakes in
numbering some of the previous
issues...



Summer 2002 was incorrectly labeled
Vol. 4, No.4,
and should have been
Vol. 5, No. 1

Spring 2003 was incorrectly labeled
Vol. 4, No.3,
and should have been
Vol.5, No. 2

Note that issues Fall 2002 and Winter 2003
were skipped.

We apologize for any confusion.

...NPDES Permits continued from page 1.

and will continue to review the circumstances in which questions are raised about whether the use of aquatic pesticides should be regulated under the CWA.

Talent Irrigation District v. Headwaters, Inc. (case number 99-35373) was the case leading to the March 12, 2001 ruling that put additional restrictions on the use of aquatic pesticides. In this case, Headwaters, a non-profit group, sued Talent Irrigation District for allowing water treated with acrolein (Magnacide H), an algicide highly toxic to fish, to pass from its irrigation canals into a natural stream on May 8, 1996. The leak killed 92,000 juvenile steelhead trout in the stream.

The Clean Water Act authorizes states to enact laws stricter than the federal enabling legislation. The Ninth Circuit Court of Appeals found the application of acrolein to be a discharge of a pollutant into waters of the United States from a point source, which requires an NPDES permit under the CWA. Any discharger who chooses to rely on the EPA interpretation is violating the Clean Water Act and becomes exposed to liability of third party lawsuits. Citizens don't have the right to sue under the FIFRA.

To help public entities that manage the aquatic environment for the public benefit with compliance to this new judicial ruling, the California State Water Resources Control Board adopted a statewide General NPDES Permit on July 19, 2001 under emergency conditions. This general permit is available to

...Spotted Knapweed continued from page 3.

been released, allowing it to thrive in soils where the chemical exists. Scientists found that European grasses that grow alongside spotted knapweed have evolved a resistance to the chemical and are better able to survive compared with native North American grasses (Yoon, 2003).

The results of this study have prompted researchers to develop strategies to use the chemical as a natural herbicide for other invasive plants. Scientists found that when negative catechin was sprayed on other weeds and plants, it was just as effective as 2,4-D, a potent and toxic herbicide (Raabe, 2002). Researchers are currently working with commercial companies to make spotted knapweed catechin spray available within a few years (Moellenberg, 2002). In addition, scientists are working to transfer the gene that naturally produces the chemical to native plants, allowing for a natural defense mechanism against weeds. This would in turn aide in the prevention of further spotted knapweed infestation, allowing more native plants to thrive. If scientists can produce and

public entities that control organisms in an effort to protect the beneficial uses of water, including drinking water reservoirs, irrigation canals and natural water bodies. This permit intends to authorize the short-term and seasonal applications of aquatic pesticides for the public benefit, as plant pests degrade the quality and usability of water.

This General Permit, which will expire on January 31, 2004, is being issued for a limited term while a more specific full-term permit is being drafted. The public agencies permitted under the General Permit must complete necessary California Environmental Quality Act documents, and develop monitoring plans that will be the basis of monitoring requirements in the next permit.

Monsanto has made it easy for those using their product AquaMaster, a widely used aquatic herbicide, to comply with the requirements of the general permit. The company delivered the AquaMaster Project Plan in 2002, which includes a step-by-step process to its customers on how to comply with Monitoring Plan requirements while using AquaMaster. The plan has been approved by the regional water quality control boards and provides instructions on proper sampling and monitoring techniques.

market a catechin-based herbicide that is non-toxic and in the process formulate a method to impede further spotted knapweed infestations, it would be a breakthrough for current weed management methods.

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Artificial Weed Models Available

The Center for Invasive Plant Management has developed lifelike weeds, made of plastic and silk, of four western invasive weeds. These plant models can be used in education and outreach activities.

The artificial weeds may be ordered through the Montana State University Extension Publications Office in Bozeman, Montana. The prices include postage and handling:

Yellow starthistle (box of 24 stems) \$44
 Knapweed (box of 12 stems) \$24
 Leafy spurge (box of 12 stems)
 Dalmatian toadflax (box of 12 stems) \$24

(prices include shipping)

To Order: orderpubs@montana.edu, Fax (406) 994-2050,
 Phone (406) 994-3273



CDFA's Efforts to Eradicate Giant Salvinia From California's Waterways.

- Giant salvinia (*Salvinia molesta* complex) is a floating aquatic fern, which forms large, floating mats that block sunlight from penetrating the water column, leading to death of underwater vegetation. Floating mats of giant salvinia can block water control structures such as diversion dams and hydroelectric generators.



Giant salvinia covering pond surface.

- Giant salvinia is a federal, aquatic noxious weed, and a "Q" rated weed in California.

- The CDFA-IPCB (Integrated Pest Control Branch) is working with the San Luis Obispo County Department of Agriculture to eradicate giant salvinia from a fire-control pond near San Luis Obispo. Fluridone aquatic herbicide is proving to be an effective treatment.

- The CDFA-IPCB is working with the San Diego County Department of Agriculture to eradicate giant salvinia from a biology demonstration pond at a local high school. Physical removal of cattails and other vegetation followed by physical removal of the floating giant salvinia is proving to be an effective treatment.

- The CDFA-IPCB is working with the Palo Verde Irrigation District to eradicate giant salvinia from two infested drains leading to the lower Colorado River. Physical removal of salt cedar, cattails, and other vegetation followed by physical removal of the floating giant salvinia has proven to be an effective treatment.

- The CDFA-IPCB is working with the Lower Colorado River Giant Salvinia Task Force to control giant salvinia along the Colorado River south of Walter's Camp, California. The CDFA has helped the U.S. Department of Agriculture secure permits to release a weevil (*Cyrtobagous salviniae*) to control the giant salvinia along the river. For more information contact Dr. Robert Leavitt at rleavitt@cdfa.ca.gov.



Close-up of giant salvinia leaf.

Eradication: The Long Term Solution

By: Katherine Blackman, Agricultural Technician, CA Dept. of Food and Agriculture

Eradication should be the ultimate goal when intervening in the spread of noxious weed species. It is desirable because it is one of the only long-term solutions to stopping the immense damage these plants cause to California's environment. They continue to threaten many areas of our environment by invading agricultural lands as well as our treasured natural landscapes. Weed infestations have negative effects on California's agricultural industry by reducing the capacity of ecosystems to provide goods and services required by society. This makes farm commodities more expensive to produce and in effect diminishes the value of the land. Weeds also erode the state's wild lands by reducing a landscape once rich in biodiversity to that of a monoculture. It is difficult to quantify this degradation of California's natural heritage in a dollar amount.

To dispel any confusion, eradication is best described as "the destruction of every individual of a species from an area surrounded by natural or manmade barriers sufficiently effective to prevent reinvasion except by man's intervention" (Zamora 1999). Some species, like yellow starthistle, will never be eradicated from California due to the extent of their range, however, there are species that are more easily eradicated. Many, including new invaders and already established plants, have smaller populations and are confined to only a few locations.

Yellow Starthistle, Too Late for Statewide Eradication

Yellow starthistle (YST) is currently among the most persistent noxious weeds in the state; it is estimated that YST covered four million acres in California in 1973 and today it covers twelve million. Due to such rapid growth, YST is completely beyond the possibility of total statewide eradication in our current economic system. Such an eradication project would cost billions of dollars and engage tens of thousands of people for many years. Though total statewide eradication of this established species would be an ideal result, any such undertaking is controversial because what differentiates a strategic investment from a waste of resources on such an aggressive pest is unclear.

There are large areas of private and public land in the state that still can be protected from the establishment of yellow starthistle through local eradication efforts, even though its range is expanding into non-infested areas at a rapid rate. Currently, most efforts devoted towards combating YST focus on reducing infestation levels in areas where YST is already abundant. There is hope that research and implementation of biological control is the best hope for a long-term permanent strategy. Meanwhile, until that hope becomes reality, we cannot allow the unrestricted spread of YST and similar pests further into regions that are still YST free. The CDFA and CALTRANS,

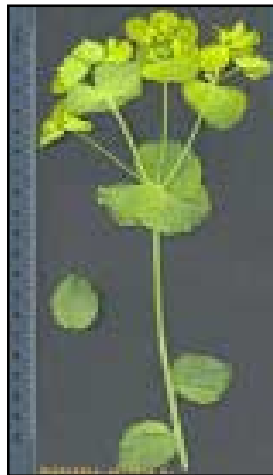
with support from the county agricultural commissioners, members of the California Interagency Noxious Weed Coordinating Committee, and local Weed Management Areas have completed a cooperative YST mapping project to determine current infestation boundaries.

Federal and State Early Detection Efforts

Since eradication efforts are most successful when species are in smaller populations, early detection of these populations is crucial for preventing further spread. No matter which strategy is taken to control weed infestation, early detection of new invaders is required on federal, state, and county levels of organization. The APHIS federal noxious weed program works to prevent the introduction of noxious weeds into the country. They provide a continuum of checks, from offshore pre-clearance programs through port inspections to surveys in rural and urban sites across the United States. At the state level, the CDFA works closely with county agricultural commissioners, and has 4 biologists with expertise in regulatory weed eradication and suppression of noxious weeds in limited distribution. Current significant projects are under way on twenty-eight such pests. Successful eradication has been attained in several weed species, including: (1) whitestem distaff thistle, (2) giant dodder, (3) serrate spurge, (4) blueweed, and (5) austrian pea-weed. The state-run project also provides general supervision, technical assistance, and training to county agricultural commissioner personnel, and others engaged in regulatory weed control.

Early Detection at the Local Level is Crucial for Successful Eradication

The most effective early detection efforts occur at the local level (Zamora 1999). When county land managers and local landowners are aware of the importance of early detection, detection methods can be improved and efforts can be made towards eradication. A survey plan should be developed and surveys conducted three times each year. A spring survey should be done to detect weeds early enough to allow for effective chemical control, a second survey should be done in early summer, and the last survey in early fall. For each survey, individual noxious weed plants should be hand-removed or sprayed with the appropriate herbicide (Sheley 1999). Disturbed areas, like roadsides, should be surveyed even more frequently. It would also be beneficial to any weed management program to conduct a botanical survey before permitting new construction and notifying weed managers when an invader is detected (Zamora 1999).



Serrate spurge (Euphorbia serrata) is one of 14 invasive plant species that has been successfully eradicated from California.

When an infestation is caught during a survey efforts should be taken towards eradication. Preventing seed production is critical. Efforts consist of a series of treatments including herbicide application, cultivation, removal of infested soil, and mechanical removal over several years. Satellite populations should be eradicated first since they cause the fastest spread, followed by eradication of the borders of larger infestations (Zamora 1999). The site should then be visited several times to examine the area for regrowth and repeated until no plants are found in subsequent visits. (Rejmanek 2002)

Requirements for Successful Eradication

Once exotic plants become established, they are likely to become permanent in an ecosystem and very difficult to manage. Early detection of a new invader is the key to effectively minimizing its spread and is the first step towards eradication. For an eradication effort to be successful, sufficient funds, clear authority of a lead agency, target species that are susceptible to the procedure, prevention of re-infestation, continued surveillance, and restoration are all necessary. Enough information should be gathered on a species to make a timely informed decision and action plan, including emergency response. Eradication is considered successful when no plants are recovered from the initial infested area for three consecutive years. This won't happen until all viable propagules are depleted from the soil.

Populations that are confined to one or a few locations with a small area of documented distribution are more likely to be eradicated successfully than those species that occur at many locations over a larger area (Groves 2002). Eradication is most likely to succeed when the target population is very small and restricted (Myers 2003). Professional eradication of exotic weed infestations smaller than one hectare is usually effective. About one-third of infestations between 1 and 100 ha are eradicated, and ¼ of infestations between 101 and 1,000 ha have been eradicated. It is unlikely that infestations larger than 1,000 ha can be fully eradicated (Rejmanek 2002).



Dudaim melon (cucumis melo var. dudaim) was successfully eradicated from California.

Successful Eradication Projects

Over time, many eradication projects have been successful. The state of California successfully eradicated fourteen exotic weeds (Rejmanek 2002); however most of these infestations were smaller than one hectare. Two successful eradications in south-eastern Queensland Australia took a relatively large number of years (eighteen and thirty-nine, respectively) which indicates that planning and cost estimates for future eradication efforts may have to account for much longer timeframes than are typically considered (Tomley 2002).

Seroty weed, which is native to the southern U.S. and Mexico and became widespread in eastern North America as an

aggressive weed, was successfully eradicated in Australia. It was discovered in 1962 and by November of 1963 it was apparent that it was spreading rapidly. Starting out at 10 meters², this weed eventually covered a total area of 0.5 ha. Weed managers were able to eradicate this plant successfully by ensuring that no plants produced seed. Young plants were hand pulled and larger plants were sprayed with herbicide. The overall effort was successful: After fifty person-days of effort over eighteen years, the result is no record of the plant's existence in the areas where it was originally found (Tomley 2002).

Another invasive species, bitterweed, was first found in 1953 in Lowood, Australia, and ultimately spread over fifty hectares. Scientists checked the area monthly, and any located plants were destroyed. Seeding plants were removed when found, and then bagged and burnt. Herbicides were used until operations ceased. The large patches of bitterweed had been reduced to smaller patches and single plants within three years of discovery, and from then population numbers declined with various fluctuations until no plants were detected in 1992 or even more recently in 2002. Overall, this project required 370 person-days over a period of 39 years to eradicate (Tomley 2002).



Meadowsage (Salvia Virgata) was successfully eradicated from California.

A Cost Effective Strategy

As we have seen with the battle of yellow starthistle, retreating to the defensive strategies of control and containment can be quite costly and inevitably requires a long-term financial commitment. Had it been detected early on and an effective eradication effort been launched while it was in smaller populations, YST might have been eliminated from California. New invaders, expanding ranges, and favorable cost comparison justify accepting eradication as an operational goal over continuous control and containment (Zamora 1999). The initial cost for any eradication plan is higher, but the net return is almost twice that of any other strategy (Zamora 1989). In any case, all plants that have the potential to cause large-scale environmental impacts should be targets for control and ultimately eradication.

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Noxious Weed Species Added to the State List

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Here are descriptions of the newly listed species:

Tree of Heaven

Ailanthus altissima (tree of heaven) is a prolific and rapidly growing deciduous tree introduced from China. One tree can produce up to 350,000 seeds in a year but in California it reproduces primarily by root sprouts and can grow several feet reaching 40 to 60 feet tall. The tree produces toxins that prevent the establishment of other plant species.



The toxin is so effective that it is currently being studied as a potential natural herbicide.

Most commonly found in disturbed areas, once this species becomes established it can quickly take over a site crowding out native vegetation. It's most significant displacement of native vegetation is in riparian zones. Tree-of-heaven is very difficult to remove. Mowing or cutting actually causes the tree to grow more prolifically, as new sprouts will appear up to 15 feet from stumps. It can be successfully removed by hand pulling, hand digging, cutting and girdling. All sites should be monitored several times per growing season and new root sprouts should be removed.

Giant Reed

Arundo donax (giant reed) is one of the fastest growing land plants in the world, rapidly altering ecological processes in riparian systems. Ultimately this species can transform diverse ecosystems into dense solid

stands. Giant Reed is highly flammable during most of the year as well as fire-adapted. Consequently it spreads by encouraging fire and re-sprouting afterwards. Its shallow rhizomes provide little structural integrity to stream banks, resulting in stream



sedimentation.

Giant reed out native plants, reducing habitat for many wildlife species. It provides little shade to the in-stream habitat, increasing temperatures and reducing habitat quality for aquatic species. Preferring moist soils, giant reed can be found choking riverbanks and channels, usually below 1,000 feet elevation. It is the most serious problem in coastal river drainages of southern California where it can occupy entire river channels.

Giant reed can be controlled by manual methods when the infestation is small but care should be taken to ensure that all rhizome material is removed. It may be necessary in all situations to use a glyphosate herbicide. The most effective applications are done in late August to early November when plants are translocating nutrients. Direct treatment to cut culms can avoid drift onto desirable plants.

Tocalote

Centaurea melitensis (tocalote) greatly resembles yellow starthistle. It is most invasive in the central-western and southwestern regions of California in drier areas where yellow starthistle does not thrive. It is less prevalent than yellow starthistle statewide but it can be an abundant component of the flora, displacing habitat for native plants and animals. Like yellow starthistle, tocalote can cause a chewing disease in horses. *Centaurea Melitensis*

can be controlled by the same methods as yellowstarthistle.



Bullthistle

Cirsium vulgare (bullthistle) was introduced in North America as a seed contaminant, and infests thousands of acres of cultivated land and pastures. Bullthistle effects wild areas and most disturbed areas in California; including grasslands, meadows, and overgrazed rangelands. Mature plants can produce up to 4,000 seeds. Following initial infestation of an area, movement between sites often occurs through the distribution of impure hay, reducing the value of the hay it infests.



Bullthistle competes with native plants, displacing forage species for deer and elk. It often dominates recently clearcut forest areas in the Sierra Nevada and has been found to suppress the growth of important tree seedlings and also to threaten some endangered species. Bull thistle can be controlled by mowing or hand cutting shortly before plants flower.

Plants have a high rate of resprouting making more than one treatment necessary. A timely application of

herbicide to the rosettes will successfully control bull thistle. Plants should be sprayed in Autumn or spring.

Jubata grass

Cortaderia jubata (jubata grass) is often confused with *Cortaderia selloana*, otherwise known as pampas grass. The two are very similar, however they have many differences. Jubata grass can be recognized by the tussocks, which are less-erect and more spreading. Jubata grass is a perennial grass native to South America that is now invading the California coast from Humboldt County to San Diego County. Each



inflorescence can produce over 100,000 lightweight seeds. Because the seeds are so lightweight they can travel a far distance by wind. Within a year of germination, a plant can produce seeds of its own.

Once established, jubata grass competes vigorously with native vegetation and reduces conifer seedling growth, the later causing significant problems for forestry. Already, \$50,000 to \$75,000 each year is spent on control programs for this invasive. Because of the sensitivity of coastal sites where jubata grass is found, there are few methods for control.

Pulling or hand grubbing jubata grass seedlings is highly effective. The entire crown and top section of the roots should be removed to prevent resprouting. Control can also be achieved by spot treatment with a post-emergence application of herbicide.

Cape ivy

Delairea odorata (cape ivy) is a perennial vine that expands primarily through vegetative reproduction. It was introduced from South Africa, for use as

an ornamental plant, and is now a



serious pest along the coast of California and currently occupies more than 500,000 acres in the state.

Cape ivy has escaped into coastal forest ecosystems where it smothers most vegetation by blocking the flow of light. Grasses and annual species are consistently missing from cape ivy infested plant communities, suggesting little establishment of native plants.

Resource managers in the Golden Gate National Recreation Area consider cape ivy to be their top vegetation management priority. The trends imply that these ecosystems will likely be dominated by cape ivy to an even greater extent in the future.

Cape ivy is difficult to eliminate because the stolons and underground parts readily fragment during removal. It can be removed by hand and plants placed in plastic and removed from the site. Resprouts can be treated with an herbicide or removed manually when chemicals are not an option.

Spanish Broom

Spartium junceum (spanish broom) is most common in disturbed places, eroding slopes, and riverbanks. It is easily confused with Scotch or French broom, posing similar dangers but considered less of a problem.



Spanish broom is a potential fire hazard. It spreads aggressively in waste places and along roadsides and invades native vegetation. Spanish broom is native to southern Mediterranean region of Europe and was introduced into California as an ornamental in 1848 and was later planted along mountain highways in southern California. It eventually established natural populations.

Hand pulling is an effective method for control when plants are small and when follow-up treatment of seedlings is done. Herbicides drastically reduce spanish broom populations.

Salt cedar

Tamarisk chinensis, *T. gallica*, *T. parviflora*, *T. ramosissima* (salt cedar) are aggressive woody invasive plants estimated to cover as much as a million acres of flood plains and



riparian areas. Each plant can produce 500,000 wind-dispersed seeds per year. Tamarisk encourages fires and increases the salinity of the soil over time. Tamarisk also consumes large quantities of water; it has been known to dry up springs that are important to a number of wildlife species. Several studies indicate that the presence of tamarisk stands lower bird population density, species richness, and diversity compared with native cottonwood-willow vegetation.

Because of its ability to resprout, plowing and cutting of salt cedar are effective means of control only with follow-up treatment of an herbicide.

Do You Have Questions About Noxious Weed Rating?

How do plants get on the State Noxious Weed List?
What does it mean for a plant to be on the list? What happens?
How do plants get a pest rating?
What is the difference between the pest ratings?
Can a rated plant be sold in a nursery?
Can a private landowner be required to control a weed on their property?

Answers to these questions and more will appear in the next issue of the Noxious Times. If you have other questions please email them to Steve Schoenig at sschoenig@cdfa.ca.gov.

California Invasive Weed Awareness Coalition Update

Doug Johnson, California Invasive Plant Council (dwjohnson@cal-ipc.org)

The next meeting of the California Invasive Weed Awareness Coalition (CALIWAC) is scheduled for November 21st in Sacramento. Agenda items for the meeting include:

- Who should go to Washington to talk to legislators during National Invasive Weed Awareness Week coming up February 23–26?
- Planning the Spring Weed Education Forum in Sacramento.
- Planning for California Invasive Weeds Awareness Week, July 19–26, 2004.
- The California Farm Bureau Federation (CFBF) and the California Cattleman's Association (CCA) will give an update on contact with Representative Pombo's office regarding HR 119 (Hefley)—Harmful Invasive Weed Control Act.
- Planning a possible meeting with Representative Pombo re: HR 119 (Hefley).
- Administrative set-up for the recently passed AB 66 (Leslie)—Adopt-a-Riverway, including advising locals on what they can do, and discussion of what CALIWAC can do to fill the fund
- Update from the California Invasive Plant Council (Cal-IPC) on funding for the International Broom Initiative.
- Review the California Department of Food and Agriculture (CDFA) draft of the California Noxious and Invasive Weed Action Plan and discuss funding and endorsements for the plan.

The next CALIWAC meeting has been proposed for January 16, 2004.

New CAL-IPC Brochure Suggests Alternatives to Invasive Horticultural Plants, Second Brochure in Production

The California Invasive Plant Council (**Cal-IPC**), which until September 2003 was known as Cal-EPPC, the California Exotic Pest Plant Council, has changed its name to make their mission more instantly recognizable. Cal-IPC is recognized as the authoritative source of new information on all aspects of wildland weed management. The council works through research to find solutions to problems caused by non-native pest plant invasions of the state's wild lands. The group proposes and facilitates solutions to such problems caused by invasive plants. The active membership includes public and private land managers, ecological consultants and researchers, planners, volunteer stewards, and concerned citizens.

Their latest development is a brochure that offers alternatives to commonly sold invasive horticultural plants. The brochure was designed for Cal-IPC members, and all others interested, as a tool in approaching local nurseries, as an educational tool for gardeners and consumers, and as a template for organizations that wish to produce a similar or related material.

Landscaping Alternatives brochure now available.

**Don't
plant a
pest!**

Give them an inch
and they'll take an
acre...



A dense stand of a non-native, C. setacea in a garden plot that has invaded Cal-IPC's redwood forest.

**Suggested alternatives for invasive
garden plants of the greater
San Francisco Bay Area**

Produced by the Cal-IPC Nursery Sustainability Program, with support from Environmental Defense, the Santa Clara County Weed Management Area, and NSF Biological Invasion IGERT, this brochure identifies twelve horticultural plants that are invasive in the San Francisco Bay area, and suggests several alternatives for each. The full-color brochure includes groundcovers, perennials, and shrubs, and is the first in a series that will address all regions of California. The next brochure, already in progress, will identify, and suggest alternatives for, invasive trees in Central California. Production of this brochure was a collaborative effort among all the stakeholders affected by this complicated issue, including: weed experts, botanical gardens, growers, nurseries, state and local agencies, non-profits, and land managers. The brochure was designed to be a tool for the Cal-IPC membership, and others, to use when approaching their local nurseries and retailers, as well as a resource for public education. Brochures are currently being distributed to county Weed Management Areas, CNPS chapters, and Master Gardener groups. If you can put some brochures to good use, please contact the Cal-IPC office at (510) 525-1502 or email Doug at djohnson@calipc.org. The suggested donation is \$30 per pack of 100 brochures to help cover production costs. For more information about the Nursery Sustainability Program visit www.cal-ipc.org.

Upcoming Events:

The CARCD Annual Meeting & Conference

Piecing Together Solutions

The 2003 conference has been designed to give members concrete and specific training, time for strategic planning with each other and an opportunity to provide input on the direction of the State Association.

November 19-22, 2003 Lake Tahoe
For more information and to register visit www.carcd.org

California Weed Science Society 56th Annual Conference

Weed Management: Economic and Environmental Savings

The upcoming 2004 Conference will be held in Sacramento at the Hyatt Regency at Capital Park. The

conference has been around for 56 years and provides ample opportunities to people of varying interests who want to refresh their knowledge of current and ongoing issues. Many topics will be covered in the following sessions by a speakers from a wide variety of backgrounds:

- Student Papers
- Student Posters
- Turf Session
- General Session
- Special Topics
- CWSS Member Reception
- Agronomics
- Ornamental
- Vegetable Crops
- Industrial & Aquatics
- Trees and Vines
- Forestry, Range & Wildlands
- What's new in weed science?
- Weed of the year-poisonous weeds
- Laws and regulations

January 12-14, 2004. Visit www.cwss.org for a detailed agenda of the many topics and speakers or call (559) 456-7554 with questions.

Matching Grants Available: The National Fish and Wildlife Foundation (NFWF) Pulling Together Initiative (PTI)

, with support from several federal agencies, is soliciting for competitive grant proposals for projects occurring between June 1, 2004 and September 30, 2005. The aim of the PTI is to prevent, manage, or eradicate invasive and noxious plants through a coordinated program of public/private partnerships and increase the public's awareness of the adverse impacts of invasive and noxious plants. Awards range from \$10,000 to \$100,000, with an average grant award of \$30,000.



CALIFORNIA INTERAGENCY
NOXIOUS WEED COORDINATING
COMMITTEE
NOXIOUS TIMES

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